256 Trends in Opioid Overdoses During the COVID-19 Pandemic

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Study Objectives: As of April 2022, the United States has reached 100,000 drug related deaths in the year preceding. During the COVID-19 pandemic, the national trend of overall emergency department (ED) visits have decreased, while the number of opioid overdoses have increased. However, it is unclear which patient populations are suffering the most from the compounded effect of the opioid overdose epidemic and the COVID-19 pandemic. The goal of this project was to quantify the number of visits to the Loyola University Medical Center (LUMC) ED for opioid overdose during the COVID-19 pandemic compared to a historical control.

Study Designs/Methods: This was a single-center, retrospective cohort of ED visits between March 2019-February 2020 (pre- pandemic) and March 2020-February 2021 (pandemic). Patients were identified using International Classification of Diseases-10 codes consistent with opioid overdose. Patients were excluded for the following reasons: missing or incomplete data, outside hospital transfer, or left before being seen by a physician. The primary endpoint was the proportion of patients presenting to the ED with a chief complaint of opioid overdose. Secondary endpoints included co-ingestion of other substances including alcohol, cocaine, and benzodiazepines, disposition, and median number of ED visits related to intoxication per patient.

Results: Overall, 588 patient charts were reviewed, of which 420 were included. The most common reason for exclusion was opioid intoxication without definitive evidence of overdose, such as naloxone administration or physical exam findings. The pandemic group had 230 overdoses compared to 190 in the pre-pandemic group. Baseline demographics were similar between groups, though significantly more pandemic group patients were male (85.7% vs 78.4%, p=0.05) and Hispanic/Latino (13.5% vs 6.8%, p=0.03). The total number of LUMC ED visits decreased by 17.5% with 38,653 pandemic visits down from 46,877 pre-pandemic visits. Overdoses accounted for 0.60% of pandemic ED visits compared to 0.41% of pre-pandemic ED visits (p<0.0001). Pandemic overdoses had higher rates of co- ingestion with benzodiazepines (14.4% vs 3.2% p<0.001), cocaine (17.4% vs 9.5% p=0.02), and alcohol (15.7% vs 14.2% p=0.68). There was no significant difference in discharge, admit, or transfer rates between the groups (p=0.10). There was a non-significant increase in the median number of ED visits per patient related to intoxication during the pandemic (2 vs 1, p=0.34).

Conclusion: During the pandemic, there was a significant increase in the proportion of ED visits for opioid overdose and overdoses with co-ingestion of benzodiazepines and cocaine. Men and Hispanic/Latinx patients were disproportionately affected. This observed increase in proportion of care in the pandemic for opioid overdose suggests that opioid use is increasing, emphasizing the need for additional harm reduction, addiction medicine and psychosocial services.

No, authors do not have interests to disclose

257 Exploring Brain Natriuretic Peptide and Subclinical Heart Disease in Emergency Patients With Asymptomatic Hypertension

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Background: Nearly half of patients who visit the emergency department (ED) in the United States have asymptomatic hypertension (HTN), and this disproportionately affects Blacks. Subclinical heart disease (SHD) (systolic and/or diastolic dysfunction) is ubiquitous, affecting more than 90% of ED patients in some studies, leading to conditions such as congestive heart failure (CHF). Identifying a biomarker/point-of-care test that may serve as a surrogate for detecting SHD may improve vigilance with follow up to primary care from the ED for treatment, and the development of secondary complications from having SHD.

Study Objectives. Brain natriuretic peptide (BNP) levels well below contemporary thresholds used for the diagnosis of CHF are associated with adverse cardiovascular outcomes in community patients with asymptomatic HTN. The objective of this study is to determine the diagnostic accuracy of BNP for predicting echocardiographic evidence of SHD in emergency patients with asymptomatic uncontrolled HTN.

Study Design/Methods: This is a multi-center prospective observational proof of concept study. A series of sample calculations determined a convenience sample of N=76 is necessary to achieve our objective. Adults ($\geq$ 18 years old) who have asymptomatic (ie no chest pain) HTN (BP $\geq$ 160/100 mmHg and 2nd $\geq$ 140/90 mmHg) are being recruited from two urban EDs in New York City. Patients with a history of CHF, renal insufficiency, and cardiovascular comorbidity, are excluded. BNP levels are categorized into high and low BNP levels, according to values above and below the 80th percentile (BNP 20 pg/ml for men and BNP 23.3 pg/ml for women). EKG evidence of left ventricular hypertrophy (LVH) by Cornell Voltage Criterion and evidence of SHD are collected. Preliminary results are described.

Results/Findings: A total of 32 patients have been recruited from one ED-site thus far. Roughly half are male (n=15; 47%) or female (n=17, 53%). A majority(93%) self-identified as Non-White (Black, Hispanic, Asian, Other) (n=30). Additional analyses will be performed on demographics upon study completion. Two patients were missing an ultrasound , leaving 30 participants for analysis. Eighty-seven percent (n=26) have evidence of SHD, a majority having left ventricular hypertrophy (n=20; 77%), and fifty-seven percent (n=15) also had an abnormal BNP level. Very few (n=3, 9.6%) had EKG evidence of left ventricular hypertrophy. We did not perform bivariate analyses due to the small sample size.

Conclusion: The majority of emergency patients who have asymptomatic HTN have an elevated BNP and/or echocardiographic evidence of SHD, which is consistent with the literature to date. A receiver operator curve will be calculated to predict echocardiographic evidence of SHD upon study completion. Future work may include comparison of other biomarkers to determine the most sensitive marker for detecting SHD.

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EMF
258 Students' Perspectives of a First Year Firearm Injury Prevention, Risk Assessment and Counseling Curricular Intervention

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Study Objectives: In 2020, there were more than 45,000 deaths from firearms in the United States. Despite growing evidence that physician counseling can impact firearm safety behaviors, few physicians regularly counsel patients. Medical students are rarely exposed to these topics in their undergraduate medical education. This work sought to address this gap by implementing an educational session for early preclinical medical students. Our objective was to introduce firearm injury epidemiology, risk assessment, and counseling strategies into a required clinical skills course and to evaluate students' perspectives on the session and the inclusion of firearm injury prevention in their curriculum.

Methods: The single session intervention was administered to all first year medical students at Alpert Medical School of Brown University in 2021. The session included pre-session readings, an interactive lecture, and small group practice cases. The session was evaluated using a voluntary post-session feedback survey and two student focus groups. Two study authors independently coded all data using NVIVO software. Coding was completed using a combination of deductive codes generated from an initial literature review and inductive codes that emerged during analysis, with discrepancies resolved through regular meetings and discussions.

Results: The single session was administered to all first year medical students (n=146). 59 of 146 students completed the voluntary post-session survey. Most agreed or strongly agreed that they learned new skills related to firearm safety counseling (89.8%), and that their attitudes about physician counseling relating to firearm injury prevention changed (61%). Students identified the provided example counseling phrasing, concrete patient examples, and practice cases as strengths of the session. Students suggested lengthening the in person session, including more real-world case examples, and adjusting and adding to pre-work resources. Two focus groups were conducted (total n=15) three months following the session. Coded themes indicated that students were receptive to this curriculum, and that the session helped them understand the clinical applications of firearm risk identification and counseling. However, the students noted that the session was only an introduction and felt the topic deserved additional curricular time and integration with other parts of the clinical